

Abstract Submitted
for the HAW05 Meeting of
The American Physical Society

Excited states in ^{22}Mg and the $^{21}\text{Na}(p,\gamma)^{22}\text{Mg}$ reaction CYBELE JEWETT, UWE GREIFE, KELLY CHIPPS, FRED SARAZIN, Colorado School of Mines, SHAWN BISHOP, JOHN D'AURIA, MICHAEL LAMEY, MICHAEL TRINCZEK, Simon Fraser University, DAVE HUTCHEON, DAVE OTTEWELL, ART OLIN, LOTHAR BUCHMANN, JONATHAN PEARSON, SABINE ENGEL, DARIO GIGLIOTTI, CHRIS RUIZ, GOTZ RUPRECHT, CHRISTOF VOCKENHUBER, TRIUMF, CARL GROSS, DAVID RADFORD, CHANG-HONG YU, JEFF BLACKMON, DANIEL BARDAYAN, MICHAEL SMITH, Oak Ridge National Laboratory, RAY KOZUB, Tennessee Technical University, DRAGON - TRIUMF COLLABORATION, CLARION/RMS - ORNL COLLABORATION — In explosive astrophysical scenarios like novae or x-ray bursts, the $^{21}\text{Na}(p,\gamma)^{22}\text{Mg}$ reaction is believed to play an important role. The proton capture proceeds predominantly via isolated states in the ^{22}Mg nucleus. This talk will present results from a search for excited states in ^{22}Mg via the $^{12}\text{C}+^{12}\text{C}$ reaction measured at HRIBF (ORNL). A direct measurement of $^{21}\text{Na}(p,\gamma)^{22}\text{Mg}$ was performed with a radioactive ion beam at ISAC (TRIUMF), using the DRAGON separator. We also used the DRAGON's BGO array to measure the γ -branching ratios of the excited states in ^{22}Mg , and compared their J^π assignments with previously published values.

Uwe Greife
Colorado School of Mines

Date submitted: 26 May 2005

Electronic form version 1.4